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SHEEP PRODUCTION TECHNICIAN

Course: Sheep Production and Health 33

Program: Green Certificate

Credits: 6

Corequisite: CTR1210: Personal Safety (Management)

Note: Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Sheep Production Technician specialization.

Description: Students demonstrate the ability to manage sheep grazing, maintain sheep health, demonstrate knowledge of basic sheep enterprises, distinguish among breeds of sheep, demonstrate knowledge of sheep nutrition and lamb management, assist with sheep reproduction, demonstrate knowledge of basic sheep marketing practices, identify and maintain farm records, and demonstrate effective and appropriate employability skills.

Parameters: Each of the three courses that constitute the Sheep Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate the ability to manage sheep grazing • maintain sheep health, by: <ul style="list-style-type: none"> – demonstrating knowledge of sheep anatomy and physiology – demonstrating knowledge of common sheep disorders and diseases – administering animal medications – performing basic animal first aid – applying internal and external pest controls 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • ongoing assessment of student performance, which is conducted: <ul style="list-style-type: none"> – on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher • certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes: <ul style="list-style-type: none"> – a performance assessment of practical knowledge and skills – a written examination. <p>Successful completion of this course will be credited toward the attainment of the Sheep Production Green Certificate Technician credential.</p>	10% 10%

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Certificate Program
ta Learning, Alberta, Canada

Sheep Production Technician / 1
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SHEEP PRODUCTION TECHNICIAN

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Note: Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Sheep Production Technician specialization.

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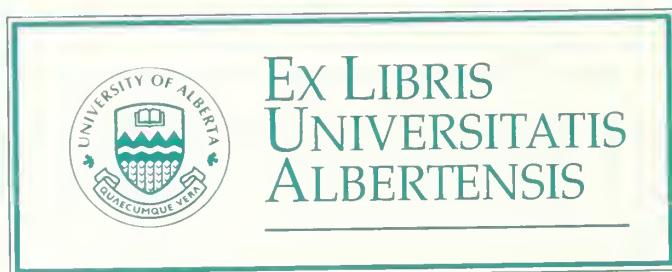
Parameters: Each of the three courses that constitute the Sheep Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none">• demonstrate the ability to manage sheep grazing• maintain sheep health, by:<ul style="list-style-type: none">– demonstrating knowledge of sheep anatomy and physiology– demonstrating knowledge of common sheep disorders and diseases– administering animal medications– performing basic animal first aid– applying internal and external pest controls	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none">• ongoing assessment of student performance, which is conducted:<ul style="list-style-type: none">– on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher• certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:<ul style="list-style-type: none">– a performance assessment of practical knowledge and skills– a written examination. <p>Successful completion of this course will be credited toward the attainment of the Sheep Production Green Certificate Technician credential.</p>	10% 10%

Course: Sheep Production and Health 33 (continued)

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate knowledge of basic sheep enterprises • distinguish among breeds of sheep • demonstrate knowledge of sheep nutrition, including feeding and managing orphans • assist with sheep reproduction/parturition, including lambing and fostering • demonstrate knowledge and practices of lamb management, by assisting with weaning lambs • identify and maintain farm records • demonstrate knowledge of basic sheep marketing practices • demonstrate effective and appropriate employability skills. 		10% 10% 10% 10% 10% 10% 10% 10% 10%



Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
Handling Sheep • Managing Grazing	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe: <ul style="list-style-type: none"> – intensive grazing methods – extensive grazing methods • identify and describe the advantages and disadvantages of intensive and extensive grazing methods • identify and describe the recommended use of each grazing method • identify basic factors to consider in maintaining sheep production at optimum levels while grazing • identify safeguards used to protect against predator attacks in grazing situations • explain the appropriate uses of: <ul style="list-style-type: none"> – monitoring systems – guardian animals; e.g., dogs, donkeys, llamas – electric fences – noisemakers • identify general rules for the positive management of forage. 	<p>General rules for forage management include:</p> <ul style="list-style-type: none"> • varying growth interval • grazing at correct stage of growth • aiming for effective utilization • grazing quickly • avoiding grazing regrowth • recognizing forage surpluses and conserving • harvesting forage before fibre content gets too high.
Sheep Health • Anatomy and Physiology	<ul style="list-style-type: none"> • identify and name the major external parts of a sheep's anatomy • locate and name major parts of the respiratory system • describe the basic function of each part of the respiratory system • locate and name the major parts of the digestive system • describe the basic function of each part of the digestive system • locate and name the major parts of the circulatory system • describe the basic function of each part of the circulatory system 	<p>Major external parts of a sheep include:</p> <ul style="list-style-type: none"> • loin • rump • pastern • brisket • shoulder • flank. <p>Major parts of the respiratory system include:</p> <ul style="list-style-type: none"> • windpipe • lungs. <p>Major parts of the digestive system include:</p> <ul style="list-style-type: none"> • esophagus • rumen • reticulum • omasum • abomasum • intestines • rectum • liver.

(continued)

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
(continued)	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • Anatomy and Physiology <ul style="list-style-type: none"> • locate and name the major parts of the urogenital tract of a ram • describe the basic function of each part of the urogenital tract of a ram • locate and name the major parts of the urogenital tract of a ewe • describe the basic function of each part of the urogenital tract of a ewe • Sheep Disorders and Diseases <ul style="list-style-type: none"> • identify characteristics of: <ul style="list-style-type: none"> – healthy sheep – unhealthy sheep • identify behaviour and features that must be watched in assessing the health of sheep • identify common conditions that affect sheep • identify common diseases that affect sheep • identify and describe symptoms of commonly occurring sheep conditions, including: <ul style="list-style-type: none"> – lameness – bloat – fly-strike – scours 	<p>Major parts of the circulatory system include:</p> <ul style="list-style-type: none"> • heart and its parts • lungs • major arteries • major veins. <p>Major parts of the urogenital tract of a ram include:</p> <ul style="list-style-type: none"> • scrotum • testicles • vas deferens • prostate gland • prepuce • penis • kidney • ureter • bladder • urethra. <p>Major parts of the urogenital tract of a ewe include:</p> <ul style="list-style-type: none"> • vulva • vagina • cervix • uterus • uterine horns • ovaries • kidney • ureter • bladder • urethra.
(continued)		<p>Characteristics of healthy sheep:</p> <ul style="list-style-type: none"> • active • responsive • feed regularly and well • flock • normal wool growth. <p>Characteristics of unhealthy sheep:</p> <ul style="list-style-type: none"> • abnormal behaviour • off food • high temperature • lack of mobility. <p>The health of sheep may be assessed by observing and/or examining the sheep's:</p> <ul style="list-style-type: none"> • behaviour and attitude • movement and stance • quality of fleece • muzzle and mouth • eyes and ears

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
(continued)	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • take action, as appropriate, to address sheep disorders and diseases, including: <ul style="list-style-type: none"> – self-directed action – consulting with the supervisor • identify and describe the farm's animal health protocol 	<ul style="list-style-type: none"> • udder • respiration • temperature • appetite • manure. <p>Sheep conditions include:</p> <ul style="list-style-type: none"> • metabolic • contagious • parasitic • genetic. <p>Diseases affecting sheep include:</p> <ul style="list-style-type: none"> • nutritional diseases • foot diseases • bloat • plant poisoning • chemical poisoning.
<ul style="list-style-type: none"> • Handling and Administering Medications 	<ul style="list-style-type: none"> • identify and describe the purpose and general use of the following in treating sheep: <ul style="list-style-type: none"> – antibiotics – vaccines – disinfectants – insecticides • read and interpret drug or product labels • describe the concept and importance of drug withdrawal • identify protocols in the farm's medication handling policy • identify and describe factors to be considered in deciding to administer individual medicinal products • identify proper practices for handling and storing medications, which ensure optimum effectiveness and efficiency of each product • identify potential hazards that can contaminate medications • demonstrate operator behaviours for avoiding contamination when handling medications 	
(continued)		

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> • Handling and Administering Medications • Animal First Aid <p>(continued)</p>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe personal hazards and hazards to animals associated with handling, storing and administering medications • identify and demonstrate appropriate operator behaviour to minimize the risk of injury and damage to an operator or to an animal • describe the advantages and disadvantages of injecting animals with drugs: <ul style="list-style-type: none"> – intramuscularly—deeply into muscle – intravenously—into blood vein – subcutaneously—under loose skin – intradermally—into the skin – intrarumen—into the rumen, as in bloat – intraperitoneally—into the space inside the body cavity • demonstrate the correct technique to inject a drug, including controlling the flow and injecting: <ul style="list-style-type: none"> – intramuscularly – subcutaneously • identify medications and other items needed to perform first aid on animals • inventory available first aid supplies, and identify deficiencies • identify available types of animal thermometers • identify alternative locations for taking an animal's temperature • use a thermometer to read an animal's temperature • explain when contact with the trainer/supervisor should be made in regard to a change in the animal's temperature 	<p>Potential hazards include:</p> <ul style="list-style-type: none"> • self-injection when handling a loaded syringe or applicator • using medication in unclean and unsanitary conditions. <p>Hazards to animals may be eliminated or minimized through:</p> <ul style="list-style-type: none"> • clean and sanitary operator practices • awareness of an animal's drug allergies • having all equipment ready before the job starts • having enough help available to perform the job effectively and efficiently • wearing proper protective clothing • medication being placed in the correct space or tissue • using aids or tools to ensure proper placement of medication • using a proper-sized needle for the particular job • properly preparing the area with alcohol or disinfectant • clipping wool, if necessary. <p>Animal first aid items include:</p> <ul style="list-style-type: none"> • drugs • vaccines • drenches • salves • sprays • medication administering equipment • bandaging • restraints.

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> • Animal First Aid • Pest Control 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify a potential bloat condition • diagnose the severity of the bloat condition • select the proper equipment and method for treating bloat • demonstrate appropriate preparation, and perform treatment for a bloat condition • monitor and record observations of an animal's response to emergency treatment • identify pests that commonly affect sheep • demonstrate the correct use of chemical/ medicinal treatment methods for minimizing the effect of pests. 	<p>A bloat condition may be characterized by:</p> <ul style="list-style-type: none"> • a distended left side and back line • a change in the animal's behaviour • the inability of the animal to stand • limited feeding. <p>Treatment for bloat may include:</p> <ul style="list-style-type: none"> • exercise • drench • stomach tube • trocar. <p>Animal pests include:</p> <ul style="list-style-type: none"> • grubs • lung worms • lice • mange • horn flies • black-flies. <p>Treatment may include:</p> <ul style="list-style-type: none"> • insecticidal sprays • surface applications ("pour-ons").
<p>Production</p> <ul style="list-style-type: none"> • Sheep Enterprises • Classifying Sheep by Purpose 	<ul style="list-style-type: none"> • identify and describe types of sheep enterprises • distinguish between feeder lamb operations and finished lamb operations • define and describe sheep production systems • identify and describe common sheep breeds developed for different purposes • define maternal breeds and crossbreeds • define terminal breeds 	<p>Sheep enterprises include:</p> <ul style="list-style-type: none"> • commercial—crossbreeds • feedlot • purebred • accelerated lambing • wool • meat • dairy. <p>Sheep production systems include:</p> <ul style="list-style-type: none"> • winter lambing • spring lambing • accelerated lambing. <p>Sheep are bred for one or more of the following purposes:</p> <ul style="list-style-type: none"> • meat • wool • milk.

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Nutrition 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • define and describe stages of production • list and describe the basic nutritional requirements of ewes at each stage of production • list and describe the basic nutritional requirements of rams at the following stages of production: <ul style="list-style-type: none"> – pre-breeding – breeding – maintenance • list and describe the basic nutritional requirements of lambs • list and describe the basic nutritional requirements of orphan lambs • explain the process of body condition scoring 	<p>Stages of production include:</p> <ul style="list-style-type: none"> • pre-breeding/flushing • breeding • early gestation • mid gestation • late gestation • lactation • weaning. <p>Nutritional requirements will vary for:</p> <ul style="list-style-type: none"> • creep feeding • weaning • finishing • replacement breeding stock. <p>Orphan lambs will require milk replacements.</p>
<ul style="list-style-type: none"> • Fostering 	<ul style="list-style-type: none"> • define fostering • identify and describe the purpose and use of a claiming pen or “jug” • explain and describe stanchion, headgate and/or other methods of fostering • identify and describe situations where fostering is required • foster a lamb, given an orphan lamb, a suitable foster ewe and a claiming pen: <ul style="list-style-type: none"> – using the stanchion method – to a ewe that has given birth to a single lamb • enable a ewe to accept a twin lamb that she has rejected • foster an orphan lamb to a ewe whose lamb has died 	<p>This may not always be possible.</p>

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Lambing 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe the farm's lambing process/protocol • prepare a lambing-time basic needs kit • describe the purpose or use of each item in the basic needs kit • demonstrate prenatal and postnatal precautionary measures when working with ewes that are lambing for the first time • identify and describe ultrasound or other methods used for pregnancy testing of ewes • demonstrate husbandry techniques • minimize stress in ewes and lambs during lambing • identify and describe the onset of parturition • define dystocia • recognize and describe common types of dystocia • assist during each type of dystocia, as appropriate • demonstrate effective postnatal care of ewes and lambs • diagnose and follow the farm's treatment protocol for a retained placenta 	<p>A lambing-time basic needs kit should include:</p> <ul style="list-style-type: none"> • propylene glycol • claiming pens • heat lamps • antiseptic lubricants • iodine tincture (check with a veterinarian regarding strength) • antibiotics; e.g., intramammary • uterine boluses • vitamin E • selenium • colostrum • bottle and nipples • rectal thermometer • scouring medicine • branding paint • marking crayon • weighing scale • plastic or rubber gloves • ear tags • oxytocin • prolapse retainer • suture materials and needle • barn record sheets. <p>Husbandry techniques include:</p> <ul style="list-style-type: none"> • clean and sanitary lambing facilities • ewes in good condition • sheltered lambing facilities • claiming pens • careful handling • periodic checks. <p>Types of dystocia include:</p> <ul style="list-style-type: none"> • tight delivery • foreleg turned back • no feet showing • big lamb • no head showing • tail showing • twins coming together • twins, with one coming out hind feet first.

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Reproduction 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe the basic reproductive/breeding cycle • identify and explain basic breeding management factors • define and explain reproductive technology—natural/artificial • describe types of reproductive technology • demonstrate the ability to assist in handling ewes and rams during applications of reproductive technology 	<p>The basic reproductive/breeding cycle includes:</p> <ul style="list-style-type: none"> • seasonality • heat cycle • gestation. <p>Basic breeding management factors include:</p> <ul style="list-style-type: none"> • ram–ewe ratio—1 mature ram/40 ewes • teaser rams/ram effect • ram marking systems • special group breeding—ewe lambs. <p>Types of reproductive technology include:</p> <ul style="list-style-type: none"> • ewe synchronization • artificial insemination • embryo transfer.
<ul style="list-style-type: none"> • Lamb Management (Weaning Lambs) 	<ul style="list-style-type: none"> • explain and describe the weaning process • identify and explain alternative weaning systems • identify and describe the processes used in different productive systems to prepare lambs for weaning • prepare ewes for weaning • minimize stress in weaning lambs 	<p>Weaning Systems:</p> <ul style="list-style-type: none"> • Early—winter lambing: At 40–60 days, lambs fed out on concentrate. • Late—Spring lambing: Ewes and lambs go to pasture. Lambs weaned as forage quality declines in early fall.
<ul style="list-style-type: none"> • Record Keeping 	<ul style="list-style-type: none"> • identify, describe and explain the purpose of information and data gathered as part of a sheep farm's record keeping protocol/system • use appropriate manual/computer-assisted information and management systems • define lambing percentage (born/to market) • identify and describe the information and data gathered for a farm's: <ul style="list-style-type: none"> – breeding recording system – lambing recording system – weight recording system – health recording system (age, weight, medications given, mortality) – feed recording system – sales recording system 	

(continued)

Course: Sheep Production and Health 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> • Record Keeping • Marketing 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • demonstrate the ability to access and input information and data • identify and describe inventories kept on the farm • take inventories, as necessary • define and describe basic marketing activities relating to the sale of sheep and sheep products • identify markets for sheep and sheep products • identify and describe the readiness of market animals for sale • explain body condition scoring • assist in determining the degree of finish on market lambs • assist in preparing market lambs for selling: <ul style="list-style-type: none"> – by weight – by finish. 	<p>Markets include:</p> <ul style="list-style-type: none"> • lamb markets • wool markets • milk markets • markets for breeding stock.
Personal Work Skills	<ul style="list-style-type: none"> • demonstrate employability skills, including: <ul style="list-style-type: none"> – verbal and nonverbal communication – goal setting and career planning – time management – basic financial management. 	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>

Course: Sheep Farm Operations and Equipment 33

Program: Green Certificate

Credits: 5

Corequisite: CTR1210: Personal Safety (Management)

Note: Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Sheep Production Technician specialization.

Description: Students demonstrate knowledge of how to dispose of dead sheep, feed sheep and manage waste, operate farm equipment, demonstrate a positive attitude toward safety and safe work skills, and demonstrate effective and appropriate employability skills.

Parameters: Each of the three courses that constitute the Sheep Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none">• demonstrate knowledge of how to dispose of dead sheep• feed sheep and manage waste, by:<ul style="list-style-type: none">– supervising the daily water supply– carrying out a feeding program– operating feeding equipment– performing a cleaning routine• operate farm equipment, by:<ul style="list-style-type: none">– demonstrating knowledge of off-road and road travel regulations	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none">• ongoing assessment of student performance, which is conducted:<ul style="list-style-type: none">– on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher• certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:<ul style="list-style-type: none">– a performance assessment of practical knowledge and skills– a written examination. <p>Successful completion of this course will be credited toward the attainment of the Sheep Production Green Certificate Technician credential.</p>	10% 30% 20%

Course: Sheep Farm Operations and Equipment 33 (continued)

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
Dead Sheep Disposal	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe the legislated process for disposing of dead sheep • demonstrate knowledge of how to dispose of dead animals, and assist in their disposal. 	<p>The procedure for disposing of dead animals is legislated by Alberta Agriculture, Food and Rural Development. Procedures may also be controlled by municipal legislation.</p> <p>Disposal procedure should include:</p> <ul style="list-style-type: none"> • animal being buried without contaminating the water or feed supply.
<p>Feeding and Waste Management</p> <ul style="list-style-type: none"> • Water Supply • Feeding Plan and Equipment 	<ul style="list-style-type: none"> • identify specific water requirements for sheep • identify and describe water quality factors influencing intake • monitor the watering system • adjust, repair or replace components of the watering system, as necessary • identify and describe the farm's feeding routine or protocol • perform a regular feeding routine • monitor and report on the adequacy of the farm's feeding program • operate and perform minor maintenance on available specialized feeding, processing and handling equipment 	<p>Conditions affecting water supplies include:</p> <ul style="list-style-type: none"> • environmental conditions • feeding situations • management practices • animal characteristics • stage of production. <p>Monitoring should include:</p> <ul style="list-style-type: none"> • checking for leaks • adjustment and/or replacement of floats • cleaning, repairing and/or replacing valves and water pipes • checking thermostats. <p>Operating and minor maintenance tasks include:</p> <ul style="list-style-type: none"> • check before start-up • lubrication • preventive maintenance • minor repairs • cleaning and storage.

(continued)

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> • Feeding Plan and Equipment • Cleaning Routine 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • place feed appropriately for a flock of sheep • identify and describe the stages in the production cycle of a flock of ewes, including: <ul style="list-style-type: none"> – pre-breeding – breeding – early gestation – mid gestation – late gestation – lactation – weaning – drying off • follow the feeding program appropriate to each stage of production • identify factors influencing the nutrient content of manure • identify and describe the fertilizing capabilities of manure • clean the feedlot and pens • spread manure. 	<p>In placing feed appropriately, the technician should:</p> <ul style="list-style-type: none"> • ensure free access for all sheep • ensure that feed is placed in feeders, not on the ground • clean feeders regularly • check that the height of feeders is appropriate for the sheep • check supplement feeders—mineral/salt • ensure that feed is free from contamination. <p>Nutrient content of manure is affected by:</p> <ul style="list-style-type: none"> • quality of bedding • type of bedding • storage time • spreading techniques. <p>Cleaning routines should be performed regularly and ensure:</p> <ul style="list-style-type: none"> • no fecal contamination of feed, mineral or salt • minimal odour • minimal fly population • minimal waste of bedding material • animals are kept clean and dry.
<p>Farm Equipment</p> <ul style="list-style-type: none"> • Road Travel Regulations <p>(continued)</p>	<ul style="list-style-type: none"> • identify and describe the lighting requirements for a truck, tractor and towed equipment on public roads • identify and describe the sign requirements for slow moving farm equipment • describe the weight restriction road ban system as it relates to truck and tractor operations 	<p>The <i>Highway Traffic Act</i> applies to all vehicles, including farm vehicles.</p> <p>Note: Driving a tractor with frosted windows is illegal.</p>

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> • Road Travel Regulations • Farm Tractor Operations in Yards, on Fields and on Roads 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify operator qualifications and licencing requirements for trucks and tractors operating on public roads • identify and describe the requirements of ensuring clear visibility for truck and tractor operators and cleanliness standards for lights and licence plates • identify and describe types of insurance required for road travel • ensure that insurance is current • perform a check of a truck prior to start-up and operation • identify and describe the purpose and operation of tractor platform controls • describe the information presented on each gauge, and interpret its reading • list and describe items to be checked in a walk-around inspection before start-up, and carry out the inspection • demonstrate correct engine start-up and shut-down procedure • identify the recommended range of engine load and rpm • select the appropriate gear ratio to maintain rpm, taking into account the job to be done • demonstrate: <ul style="list-style-type: none"> – appropriate shifting and clutching procedures – independent brake usage – safe procedures for hooking up implements – safe highway and roadway operations • select the appropriate tractor capacity to do the job • describe tipping and rollover hazards in field situations, including those related to incorrect hitching to the tractor • describe hazards associated with using towropes, cables and chains, and demonstrate the correct placement of these items 	

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Tractors with Front-end Loaders • Tractor Service and Maintenance 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • describe hazards associated with operating a front-end loader • identify precautions to be taken to minimize hazards • identify items to be checked prior to starting a front-end loader • demonstrate the safe and efficient operation of a front-end loader to carry out a farm task • demonstrate safe and efficient procedures, when working on loader parts or on a tractor with an attached front-end loader • list and describe items that should be inspected regularly on available tractors • identify tractor fluid levels that need regular checks • check fluid levels, and take appropriate corrective action • demonstrate routine tractor servicing and lubrication, including: <ul style="list-style-type: none"> – oil and filter changes – hydraulic fluid and water filter changes • identify and describe basic types of greases and oils used in lubricating a tractor • explain the importance of using correct lubricants • demonstrate grease gun filling and greasing techniques • identify non-engine points requiring lubrication • identify and describe the frequency of lubrication activities • select the appropriate lubricant for each task • identify and describe types of air cleaners found on an available tractor • explain the frequency for servicing air cleaners • demonstrate proper cleaning and servicing procedures for each type of available air cleaner 	<p>All servicing and maintenance should be done in accordance with the equipment manufacturer's instructions.</p> <p>Regular inspections should be conducted on:</p> <ul style="list-style-type: none"> • steering mechanism • oil • water level • battery • transmission and drivetrain • accessories.

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Farm Trucks with Towed Equipment • Livestock Hauling 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe regulations relating to towed equipment • identify and describe hazards associated with towed equipment • identify and describe proper procedures for hitching equipment to farm trucks • demonstrate procedures for backing up and manoeuvring a truck with towed equipment • demonstrate safe and proficient use of a truck to tow equipment • identify and describe the hazards associated with hauling livestock • identify and describe regulations governing the hauling of livestock • identify agencies involved in administering regulations governing the hauling of livestock • identify and describe the proper preparation and set-up of the truck box for hauling animals • identify and describe reasonable vehicle load and space limits for various kinds of stock • demonstrate safe and humane loading, hauling and unloading of livestock • explain the purpose of a manifest • identify and describe key information found on a manifest • prepare a manifest • describe the purpose of the Canadian Sheep Code of Practice. 	<p>In backing up a truck with towed equipment, ensure that:</p> <ul style="list-style-type: none"> • mirrors are used effectively • a helper can assist, by using hand signals • the truck and tow can be manoeuvred in reasonable time. <p>Hazards associated with hauling animals include:</p> <ul style="list-style-type: none"> • bruising of animals • overheating • freezing • gassing animals when truck is parked with engine on. <p>Concerned agencies include:</p> <ul style="list-style-type: none"> • Society for the Prevention of Cruelty to Animals (SPCA) • Humane Society • Canadian Sheep Federation • Alberta Sheep and Wool Commission.

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
Safety <ul style="list-style-type: none"> • Fire Extinguishers • Emergency First Aid 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • describe the basic components of fire • describe methods of controlling each component of fire • identify and describe classes of fire • identify the appropriate type of extinguisher material/fire extinguisher for each type of fire • identify classes of fires possible: <ul style="list-style-type: none"> – on a truck or tractor – in a farm shop – in a livestock building • identify the hazardous areas and seasonal factors affecting fire risk: <ul style="list-style-type: none"> – on a truck or tractor – in a farm shop – in a livestock building • assess the cause or source of a fire, and take steps to prevent reignition • identify locations of fire extinguishers • determine the operating procedure for each type of fire extinguisher • read fire extinguisher labels, and determine the active operational time of each extinguisher • perform cardiopulmonary resuscitation (CPR) • aid a choking victim • treat severe bleeding • handle shock 	<p>Basic components are:</p> <ul style="list-style-type: none"> • fuel • heat • air. <p>Classes of fire include:</p> <ul style="list-style-type: none"> • Class A—wood, crop residues. Use water to extinguish • Class B—oil, gas. Use CO₂ or approved chemical extinguishers • Class C—electrical. Use CO₂ or approved chemical extinguishers. <p>Students should have completed or be in the process of completing the emergency first aid course, which is a component of CTR1210: Personal Safety (Management).</p>

Course: Sheep Farm Operations and Equipment 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Personal Habits and Farm Safety 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify the major types of hazards associated with running machinery • identify hazards associated with parked equipment • identify and describe safe and unsafe clothing in various farm situations • describe appropriate personal protective equipment (PPE) for various farm jobs • demonstrate appropriate safety practices when working with farm machinery • identify and describe situations on the farm when the following PPE items should be worn: <ul style="list-style-type: none"> – earplugs – eye protection – dust masks • demonstrate appropriate use of PPE • demonstrate safe and appropriate procedures to maintain tools and work areas in a clean and operational condition • identify and be able to access the following safety-related items: <ul style="list-style-type: none"> – fire extinguishers – first-aid kit – other safety equipment. 	<p>Hazards include:</p> <ul style="list-style-type: none"> • rotating parts; e.g., power take-off (PTO), belts, chains • hot surfaces and fluids • moving vehicles • hydraulics—holding up heavy parts • high pressure hydraulics and their potential for leaks onto skin • speed and power of moving parts • distractions causing loss of attention • rollover possibilities • more than one person working around machines • improper clothing • hair catching in rotating parts.
Personal Work Skills	<ul style="list-style-type: none"> • demonstrate employability skills, including: <ul style="list-style-type: none"> – verbal and nonverbal communication – goal setting and career planning – time management – basic financial management. 	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>

Course: Sheep Handling and Facilities 33

Program: Green Certificate

Credits: 5

Corequisite: CTR1210: Personal Safety (Management)

Note: Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Sheep Production Technician specialization.

Description: Students demonstrate the ability to handle sheep, including tipping a sheep, crutching a sheep, applying tags and other identifiers, and shearing a sheep; demonstrate knowledge and apply the principles and practices of the Recommended Code of Practice for the Care and Handling of Sheep; and demonstrate effective and appropriate employability skills.

Parameters: Each of the three courses that constitute the Sheep Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none">• demonstrate the ability to handle sheep, by:<ul style="list-style-type: none">– demonstrating knowledge of sheep behaviour– tipping a sheep– crutching a sheep– docking and castrating lambs– trimming hoofs– applying tags and other identifiers– handling sheep wool– using dogs to work with sheep– shearing a sheep– maintaining fences and corrals– demonstrating the proper use of basic hand and shop tools	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none">• ongoing assessment of student performance, which is conducted:<ul style="list-style-type: none">– on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher• certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:<ul style="list-style-type: none">– a performance assessment of practical knowledge and skills– a written examination. <p>Successful completion of this course will be credited toward the attainment of the Sheep Production Green Certificate Technician credential.</p>	60%

Course: Sheep Handling and Facilities 33 (continued)

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none">• demonstrate knowledge and apply the principles and practices of the Recommended Code of Practice for the Care and Handling of Sheep• demonstrate effective and appropriate employability skills.		30% 10%

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>Sheep Handling</p> <ul style="list-style-type: none"> • Sheep Behaviour 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe how sheep respond to various stimuli • identify and describe appropriate sheep handling behaviour and environments • identify and describe alternative methods for handling sheep of different: <ul style="list-style-type: none"> – ages – categories, including baby lambs, ewe lambs and adult sheep • describe general behaviour patterns and temperament of sheep when one or a small number of sheep are separated from an established flock • identify and describe necessary precautions for catching and holding a sheep using a neck crook, halter or other appropriate method • use appropriate handling systems to move sheep over: <ul style="list-style-type: none"> – short distances (1–3 metres) – intermediate distances (4–35 metres) – long distances • use an appropriate system to move a flock of sheep, including using: <ul style="list-style-type: none"> – a dog – lead sheep – a grain pail – a fencing system • identify and describe appropriate systems for handling and moving: <ul style="list-style-type: none"> – a large flock of sheep – a small number of sheep 	<p>Students should be able to describe sheep behaviour when subjected to:</p> <ul style="list-style-type: none"> • a new environment • a loud or unfamiliar noise • aggressive actions by humans or other animals • dogs • changes in environmental conditions, including wind, sun and water. <p>General behaviour of sheep includes:</p> <ul style="list-style-type: none"> • flocking instinct • follow-the-leader instinct • browsing • habit formation • herding.

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Sheep Tipping • Sheep Crutching • Docking and Castrating Lambs 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe the purpose of tipping sheep • identify and describe the difference between using a tipping table and manually tipping a sheep • demonstrate proper procedures for tipping a sheep, using a tipping table • describe situations where it is more appropriate to tip a sheep: <ul style="list-style-type: none"> – using a tipping table – manually • describe the purpose of crutching a sheep • identify the proper timing for crutching a sheep • identify and describe why ewes are crutched • identify and describe the advantages and disadvantages of crutching • identify the purpose for docking a lamb's tail • identify and describe the advantages and disadvantages of using alternative methods of docking: <ul style="list-style-type: none"> – the elastrator method – the emasculator/burdizzo method – the electric docker method • demonstrate safe and sanitary procedures for docking a lamb's tail, using the following as appropriate: <ul style="list-style-type: none"> – the elastrator method – the emasculator/burdizzo method – the electric docker method • explain the purpose of castration • identify and describe the advantages and disadvantages of castration 	<p>Factors affecting decisions relating to castration include:</p> <ul style="list-style-type: none"> • flock management • marketing • breeding • costs.

(continued)

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
(continued)	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • Docking and Castrating Lambs <ul style="list-style-type: none"> • demonstrate safe and sanitary procedures for castrating a sheep, using the following as appropriate: <ul style="list-style-type: none"> – the elastrator method – the emasculator/burdizzo method • identify and describe general precautions to be observed when performing castrations, including: <ul style="list-style-type: none"> – age of sheep – code of practice • identify and describe the effects of infection and causing the animal undue stress during castration 	
<ul style="list-style-type: none"> • Hoof Trimming 	<ul style="list-style-type: none"> • identify and describe the purpose of trimming sheep hoofs • identify and describe appropriate times for trimming sheep hoofs • identify and describe implements used to trim sheep hoofs • identify and describe precautions to be taken when trimming hoofs • trim sheep hoofs 	<p>Hoof trimming can help:</p> <ul style="list-style-type: none"> • prevent foot rot • enhance mobility • decrease the incidence of lameness.
<ul style="list-style-type: none"> • Sheep Identification 	<ul style="list-style-type: none"> • identify and explain the purpose of having a sheep identification system • identify and describe common techniques for identifying sheep • describe the procedures and equipment used in the farm's identification system • perform the required procedures for identifying sheep • describe the characteristics of an effective identification system 	<p>Precautions to be taken when trimming hoofs include:</p> <ul style="list-style-type: none"> • trimming the hoof to be level with the sole • ensuring no excessive trimming • ensuring no excessive bleeding. <p>Sheep are identified for:</p> <ul style="list-style-type: none"> • individual identification purposes • ewe productivity • performance record • flock identification. <p>Identification techniques include:</p> <ul style="list-style-type: none"> • tagging • paint branding • tattooing. <p>An effective identification system should:</p> <ul style="list-style-type: none"> • be clear and visible • record appropriate information • cause minimal harm or stress to the animals • identify the animals in the flock.

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Wool Handling • Guardian and Herding Dogs 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe categories of Alberta sheep wool • demonstrate correct procedure for handling a fleece • identify and describe undesirable materials often found in fleeces • remove undesirable material from fleeces • identify and distinguish among: <ul style="list-style-type: none"> — black fibres — chaffy wool — belly wool — leg hair • separate wool of similar types • pack, stack and store wool • identify and describe the uses of dogs in sheep operations • identify types of dogs used on sheep farms • identify and describe basic dog handling techniques, including: <ul style="list-style-type: none"> — voice commands — hand signals — whistle signals — praise and encouragement • identify and describe procedures used to raise: <ul style="list-style-type: none"> — herding dogs — guardian dogs • identify and describe procedures used in training a herding dog to work with sheep 	<p>Major categories of Alberta sheep wool include:</p> <ul style="list-style-type: none"> • range wool • domestic wool. <p>Undesirable materials found in fleeces include:</p> <ul style="list-style-type: none"> • manure tags • dirt and sand • vegetable matter. <p>When stacking and storing wool, ensure that:</p> <ul style="list-style-type: none"> • sacks are filled evenly and compactly • sacks are sewn securely • sacks are stored in a dry place. <p>Dogs are used for two major purposes on a sheep farm:</p> <ul style="list-style-type: none"> • as guardian dogs • as herding dogs. <p>Types of dogs commonly used on sheep farms include:</p> <ul style="list-style-type: none"> • Pyrenean mountain dogs • Maremma • Komondor. <p>Herding and guardian dogs need to be trained to work with sheep. Guardian dogs, in particular, need to be reared with sheep when they are puppies. Both types of dogs must have the appropriate instinct to perform properly.</p>

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Shearing • Fence and Corral Maintenance 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify and describe the purpose of shearing • determine the appropriate time to shear sheep • identify and describe procedures used to shear sheep, including the Tally-Hi method • identify courses in Alberta that teach sheep shearing • identify sources of reference material relating to sheep and shearing • identify and describe hazards associated with fencing • describe procedures to minimize hazards • describe the following types of fences, and explain their appropriate use: <ul style="list-style-type: none"> – barbed wire – electric high tensile – electric tape x-fencing – page/hog wire – planks • demonstrate the correct selection, use and driving of staples to secure wires or insulators to a post • demonstrate the correct selection and use of tools and supplies for repairing wooden fences and corrals • demonstrate safe procedures for preparing, placing and setting wooden posts • demonstrate the correct placement and setting of metal posts prior to driving them • describe and demonstrate the correct construction of corner braces • describe and demonstrate the correct use of wire in constructing or repairing fences 	<p>Sheep should not be shorn:</p> <ul style="list-style-type: none"> • during or near the lambing season • in cold or wet weather, without appropriate shelter. <p>Information about courses on sheep shearing may be obtained from:</p> <ul style="list-style-type: none"> • Alberta Agriculture, Food and Rural Development • Alberta Sheep and Wool Commission. <p>Safety hazards include:</p> <ul style="list-style-type: none"> • breaking wire • hand/finger pinching by wire • cuts • losing fingers while using a post pounder • back strain • footing/footwear.

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> • Hand and Shop Tools 	<p><i>The student will:</i></p> <ul style="list-style-type: none"> • identify different types and sizes of hand tools and accessories needed on a farm, including: <ul style="list-style-type: none"> – screwdrivers – hammers – chisels – wrenches – pliers – cutters – rasps • describe and demonstrate the safe and correct use of each type of available hand tool and accessory • demonstrate the correct selection and use of hacksaw blades for specific tasks • identify different types of power tools commonly used on a farm • describe the hazards associated with each power tool • demonstrate the correct use of each available power tool. 	<p>Screwdriver types include:</p> <ul style="list-style-type: none"> • flat • Phillips • Robertson. <p>Wrench types include:</p> <ul style="list-style-type: none"> • box • open • adjustable • socket. <p>Plier and cutter types include:</p> <ul style="list-style-type: none"> • slip joint regular • pump type • side cutters • needle-nose • long-nose. <p>Hammer types include:</p> <ul style="list-style-type: none"> • nail • claw • ball-peen • mallets • sledge. <p>Chisel types include:</p> <ul style="list-style-type: none"> • cold • wood • punches • pin • centre drift. <p>Rasp types include:</p> <ul style="list-style-type: none"> • wood • metal • fine • coarse.
Code of Practice	<ul style="list-style-type: none"> • describe the purpose of a code of practice • explain the purpose of the Canadian Sheep Code of Practice: Recommended Code of Practice for the Care and Handling of Sheep • identify and describe the roles of: <ul style="list-style-type: none"> – the Canadian Sheep Federation – the Alberta Sheep and Wool Commission • follow the Canadian Sheep Code of Practice in all farm operations. 	<p>The Canadian Sheep Code of Practice can be obtained from the Canadian Sheep Federation and the Alberta Sheep and Wool Commission.</p>

Course: Sheep Handling and Facilities 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
Personal Work Skills	<p><i>The student will:</i></p> <ul style="list-style-type: none">• demonstrate employability skills, including:<ul style="list-style-type: none">– verbal and nonverbal communication– goal setting and career planning– time management– basic financial management.	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>

RESOURCES

The Green Certificate Program is supported by a variety of resources, including:

- *Off-campus Education Guide for Administrators, Counsellors and Teachers*, Alberta Education, 1997
- *Career Transitions Guide to Standards and Implementation*, Alberta Education, 1997
- *Beef Herd Operations: Cow-Calf Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Dairy Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Feedlot Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Field Crop Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Irrigated Field Crop Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Irrigated Field Crop Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Sheep Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Swine Farrow to Finish Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- Other specialization-related resources as listed in the current AAFRD Publications Guide.



